

VI. *Notes on the Rhopalocera of the Dollman Collection.* By
N. D. RILEY.

(Published by permission of the Trustees of the British Museum.)

[Read March 16th, 1921.]

PLATES IV—VII.

It was hoped when the collections formed by the late Hereward Dollman in N.W. Rhodesia were presented to the Museum that a catalogue of them would be published. This project having seemingly fallen through, I have thought it advisable to publish the following notes now, hoping at a later date to be able to publish the much fuller and more interesting notes contained in Dollman's numerous diaries, and to figure the larvae of which he made so many extraordinarily good drawings.

Any remarks which I have taken direct from Dollman's MS. notes and diaries are placed in inverted commas in the ensuing descriptions, etc. With regard to the species of the genus *Catochrysops*, the new species contained in the collection will shortly be described by Mr. G. T. Bethune-Baker in a paper on that genus. They are therefore not included here.

PAPILIONIDAE.

1. *Papilio mackinnoni theodori*, subsp. nov.

(Plate IV, fig. 1, ♂; 2, ♀.)

♂, ♀. Coloration and pattern as in *P. m. mackinnoni* E. M. Sharpe, but all the yellow spots forming the transverse band on forewing larger; the three subapical ones only slightly larger, the remainder at least half as long again, broader and more rectangular in shape. Two yellow patches are present just beyond apex of cell, of about the same size as the three subapical ones, and a smaller yellow spot within cell against base of vein 5. The hind-wing macular band in both sexes is almost exactly as in typical *mackinnoni*, none of the twin-spots being united in the ♂, the corresponding spots in ♀ differing by being proximally more truncate and at the same time rather larger. Below, the same differences hold good, the macular band of hind-wing being in the ♂ perhaps slightly narrower than in typical ♂♂ of *mackinnoni*.

TRANS. ENT. SOC. LOND. 1921.—PARTS I, II. (OCT.)

B.M. Type No. Rh. 050, ♂, Solwezi, N.W.R. 14 i. 1918.

B.M. Type No. Rh. 051, ♀, Solwezi, N.W.R. 1 iv. 1918.

In addition there are 14 ♂♂ and 14 ♀♀ in B.M. taken by Dollman in various localities in N.W. Rhodesia.

The series shows a fairly large amount of variation. In one male the upper subapical and postcellular spots are united, as also are the lower ones, whilst the middle subapical spot is very large, but not quite united with either of the others; in several the twin-spots of hind-wing band are more or less united. In the females one specimen has two large yellow spots in the cell distally, but this would appear to be unusual, though many show a tendency towards additional yellow markings in this area, and just beyond end of cell, and also a tendency towards the union of the subapical and postcellular spots as in the male specimen referred to above.

Dollman states that he has "carefully examined the type of *P. mackinnoni benguellae*, Roths.," and that "it is quite different from this race."

PIERIDAE.

2. *Mylothris rüppellii* Koch.

Pieris rüppellii Koch, Indo-Austr. Lep. Fauna, p. 88, 1865.

This species, judging by the series in the Dollman Coll. and in the B.M., would appear to fall readily into several geographical races.

(a) *M. rüppellii rüppellii* Koch.

Described by Koch as having the basal suffusion of hind-wing of same colour as that of fore-wing. He only mentions the male, and gives "Abyssinia" as locality. No Abyssinian specimens in the B.M. agree with his definition. See below.

(b) *M. rüppellii kikuyuensis* Bart.

Mylothris rüppellii, ♀-form *kikuyuensis* Bartel, Nov. Zool. xii, p. 150, 1905.

This name is best applied to the form occurring throughout the greater part of Br. E. Africa, Uganda and the Kilimanjaro District, although first described by Bartel from the female only. It is characterised in both sexes by the redness of the basal suffusion of fore-wing, which thus

contrasts strongly, more particularly in the male, with the yellow of the hind-wing. Typical females have the hind-wing yellow basal suffusion largely replaced by the same red, but seldom completely so. The marginal markings are rarely very heavy.

45 ♂♂, 24 ♀♀ in B.M. from Kikuyu (typical ♂♂ and ♀♀), Nyeri, Sotik, S.E. slopes of Mt. Kenia, S. Kavirondo, Nandi Plateau, S. slope of Mt. Elgon, Yala R., Njoro, Eastern Mbale, Mt. Kokanjero, Taveta, Old Moschi, etc.

On Mt. Kenia the normal male seems to be almost entirely replaced by

M. r. kikuyuensis, ♂-form *kenia*, f. nov.

in which the ground-colour of both wings above is a delicate lemon-yellow instead of being white, and a trace of red is present in the yellow hind-wing basal patch. In all other respects it resembles typical males of *kikuyuensis*.

B.M. Type No. Rh. 052, ♂, S.E. slopes of Mt. Kenia, 6000–7000 ft., 4 ii. 1911 (*S. A. Neave*). In the B.M. there are in addition eight other ♂♂ taken with the type, and one ♂ from Godeb River, Abyssinia, 25 iv. 1902 (*Wegen*).

M. r. kikuyuensis, ♀-form *kaffana*, f. nov. (Plate V, fig. 3).

In this form of the female the wings are semi-transparent, the basal suffusions of both wings are very faint on the upper surface, though present; almost absent on hind-wing, present and practically normal on fore-wing, below.

B.M. Type No. Rh. 053, ♀, Inderatcha Forest, at Bonga, Kaffa, Abyssinia, 6050 ft., 4 vi. 1905 (*Ph. Zaphiro*); another ♀, Kaffa, Abyssinia, 1909 (*C. W. Gwynn*).

This form of the female is very close to some female examples of *M. erlangeri* Pagenstecher, from Abyssinia. So close in fact as to lead one to think that *erlangeri* itself may be only an extreme yellow race of *rüppellii*.

(c) *M. rüppellii rhodesiana*, subsp. nov.

(Plate V, fig. 1 ♂, 2 ♀.)

♂. With fore-wing basal suffusion much paler orange—no suggestion of red. Marginal markings heavier than in preceding subspecies.

♀. Basal suffusion of all wings the same colour, dull, pale orange, much duller than in ♂, extending beyond cell in both wings, tingeing the whole of interspaces 1a, 1b, 2 and parts of the others, also form-

ing a faint border in which are set the marginal spots on fore-wing : in hind-wing suffusing the whole, more faintly towards the margins, the distal parts of veins remaining whitest. Marginal markings heavy, apical black interrupted by two longitudinal yellowish streaks. Below, the orange suffusion of fore-wing extends to little more than basal half of wing, remainder white, seven marginal spots small. Hind-wing below with basal orange streaks in area 8 and faint suffusion of pale orange in and below cell, remainder white, marginal spots as above.

B.M. Type No. Rh. 054, ♂, N.W. Rhodesia, Kashitu, ii. 1915 (*H. C. Dollman*).

B.M. Type No. Rh. 055, ♀, Solwezi, iii. 1917 (*H. C. Dollman*.)

In addition 11 ♂♂, 7 ♀♀, ii. iii. vi. and viii. Yiafusa R., Kashitu and Solwezi (*H. C. Dollman*); Kambove, Katanga, Congo, 3 ♂♂ (*S. A. Neave*); Nyasaland, between Katunga and Mandala, 3 ♂, Blantyre, 2 ♂, 1 ♀, Zomba, 1 ♀; Angola, Chibokive country, 1 ♂.

This very distinct form is characteristic of Northern Rhodesia and Nyasaland, extending to the Katanga District of Belgian Congo and to Angola. It is on the whole decidedly a larger insect than the Uganda and E. African race, more heavily marked and much paler. One ♂ from the Itumba District of German E. Africa, in B.M., is in my opinion referable to this race.

(d) *M. rüppellii haemus* Trimen.

Pieris haemus Trim., Trans. Ent. Soc. Lond., 1879, p. 342.

This, the better known S. African race, is characterised in the males by having the basal suffusion of fore-wings of a rather brick-red shade, more nearly resembling that in typical *rüppellii*, the same colour to a large extent suffusing the yellow hind-wing basal area as well; in the females by the far greater (sometimes complete) and basally rather redder suffusion of all wings above and by the fore-wing apical black patch not being broken up in any way.

Mashonaland 5 ♂♂, 3 ♀♀; "Zambesi" 1 ♂; "Kaffraria" 1 ♂.

3. *Mylothris dollmani*, sp. nov.

(Plate V, figs. 4-6.)

♂. *Upperside*. Both wings pure white. Fore-wing basal third (mainly owing to underside coloration showing through) very faintly

yellowish-pink, sprinkled proximally with grey scales. Interspace 12 black, thickly sprinkled with grey scales, the black continuing narrowly along costa, widening at vein 10 to form a black apical patch the inner edge of which joins the top of black marginal spot at end of vein 5. This spot about 2.2 mm. in diameter. Similar spots present at ends of veins 4, 3, 2 and 1, decreasing in size, the one at end of vein 1 very small. Hind-wing with similar slight basal suffusion, tinged with yellow at base of interspace 7. Black marginal spots present at ends of veins 1b-6, those at ends of 2, 3 and 4 twice the size of the others, about equal in size to the one at end of vein 4 of fore-wing.

Underside. Both wings pure white. Fore-wing base orange, filling the proximal halves of interspaces 10 and 11 (but not 12), the cell as far as discocellulars, a small triangular area at base of interspace 2 and base of 1b level with this. Costa white. A black spot at the end of every vein including 10, 11, 12 and 1. Apical black of upperside shows through slightly. Hind-wing similarly orange at base, the orange filling area 8 of same colour as fore-wing, remainder filling 7, the cell as far as discocellulars, base of 2, basal half of 1c and faintly colouring bases of 1a, 1b and 6, paler. Marginal spots as above.

Body with a well-defined lateral sulphur-yellow stripe.

Length of fore-wing 3.1 cm.

♀. *Upperside.* Fore-wing white, the cell, and areas 1a, 1b and 2 filled with pale ochreous; 3, 4 and 5 with a wide central streak of same colour, but paler, leaving the areas immediately alongside the veins white; 9, 10 and 11 also faintly ochreous. Black markings as in ♂, but spots at ends of vein rather larger. Basal grey scaling heavier. Hind-wing rich ochreous, paler in areas 1a, b and c. Marginal spots as in ♂, but rather larger, fringes white between the marginal spots.

Underside. Fore-wing white, suffused with rich ochreous, exactly corresponding with pale ochreous areas of upperside. Veins distally white. Black markings as in ♂. Hind-wing as above, but of richer ochreous, and having veins white or whitish.

Body laterally with less well-defined sulphur yellow stripe than in ♂.

Length of fore-wing 3.1 cm.

B.M. Type No. Rh. 056, ♂, N.W. Rhodesia, Solwezi, iii. 1917 (*H. C. Dollman*).

B.M. Type No. Rh. 057, ♀, N.W. Rhodesia, Solwezi, i. 1917 (*H. C. Dollman*).

M. dollmani, ♀ form *flavida*, f. nov.

(Plate V, fig. 6.)

A form of the female in which the ochreous coloration has entirely displaced the white of fore-wing above and confined it below to an area approximately corresponding with that of the black apical patch of upperside.

B.M. Type No. 058, ♀, N.W. Rhodesia, Solwezi, 14 iii. 1918 (*H. C. Dollman*).

In addition there are 12 ♂♂, 10 ♀♀ in B.M. (Dollman Coll.) from the same locality, all taken during Jan.–April 1917 or 1918, also 1 ♀ from Lualaba Valley, Kansanshi, N.W. Rhodesia, in Coll. Adams in B.M.

This very distinct species bears a strong superficial resemblance to *M. agathina* Cram., but the white apical area of underside of fore-wing separates it at once. Dollman, though separating the species in his collection, does not refer to it in his MS. notes. Judging by the perfection of the specimens in his series the majority would seem to have been bred.

SATYRIDAE.

4. *Mycalesis cooksoni latior*, f. nov.

(Plate IV, fig. 3 ♂, 4 ♀.)

Druce's description and figure (Trans. Ent. Soc. Lond., 1905, p. 251) are taken from a male of the dry-season form. In the wet-season form the insect is of a rather richer and deeper coloration and slightly smaller. The subapical yellowish band of fore-wing above is much paler and wider, in the male extending as far as, in the female often beyond, the small ocellus in area 5, and terminating squarely at vein 3. On the underside the differences are what one would expect, *i. e.* an almost entire absence of striation, the ocelli all well developed, the pale yellow markings more developed, the basal halves of the wings evenly dark grey-brown, cell markings almost absent. It seems best to name this ocellate form (= f. *latior*), but it is obviously to be considered only the wet-season form of *cooksoni*.

B.M. Type No. Rh. 138 ♂, 139 ♀, Solwezi, i. 1917 (*H. C. Dollman*).

5. *Mycalesis saussurei suffusa*, subsp. nov.

♂ ♀. Differ from typical *saussurei* Dewitz, by being entirely deficient of the transverse white band of the upper side of both wings. The position of this is indicated in the fore-wing by a slightly paler area; in the hind-wing hardly at all, the ground-colour having entirely displaced it. In addition the ocelli on fore-wing above are more in evidence than in the typical form, and the edge of the basal brown area of both wings below is straighter and encroaches more on the transverse white band, this latter and the remainder of markings of underside being otherwise typical.

B.M. Type No. Rh. 058, ♂, N.W. Rhodesia, Solwezi, 11 iv. 1918 (*H. C. Dollman*).

B.M. Type No. Rh. 059, ♀, N.W. Rhodesia, Solwezi, 11 iv. 1918 (*H. C. Dollman*).

In addition 11 ♂♂ from same locality. The specimens referred to by Neave (*P. Z. S.* 1910, p. 10)—of which there are 2 ♂♂, 2 ♀♀ in B.M. from "150 miles W. of Kambove"—belong to this form. They do, however, show rather more definite indications of the transverse white band of upper-side than do Dollman's specimens.

"Only found in forest country adjacent to the Solwezi River."

6. *Henotesia perspicua* Trimen.

Mycalesis perspicua Trimen, *Trans. Ent. Soc. Lond.*, 1873, p. 104.

This species is represented by three forms:—

(a) *H. perspicua f. birsha* Hew (= *victorina*, Westw.).

Represented by six males taken between 31st January and 9th February 1917, at Mwendwa during the rains. They are of a very pronounced wet-season type. "Absent from Solwezi District."

(b) *H. perspicua f. perspicua* Trim.

Represented by eight males and four females all of one form, a more or less intermediate seasonal form, and taken near the Solwezi River between 24th Feb. and 13th April 1917, except for one specimen taken on 1st October 1917. These periods correspond, as far as I can ascertain, with the end and the beginning of the rains respectively.

(c) *H. perspicua* f. *simonsi* Butler.

Of this there are six males and nine females taken "at Mwendwa in August 1913 and in the Lukanga Valley, Kashitu, in September 1915. Not seen at Mwendwa." Dollman goes on to say in his MS. notes that he "agrees with Marshall (Trans. Ent. Soc. 1896, p. 562) and Neave (P. Z. S. London, 1910, p. 10) that *simonsi* is the dry-season form of *perspicua*. The two localities" in which it was found "were very dry river valleys—of the Kafue and the Lukanga. Seeing that *perspicua* was not taken at Mwendwa, but that the closely allied form *birsha* was, the Mwendwa *simonsi* are probably seasonal forms of the latter."

An examination of the dates of capture of these three forms, and the form *teratia*, Karsch (a form intermediate between *perspicua* and *simonsi*), all occurring in N.W. Rhodesia and Katanga, shows that (1) in the middle of the rainy season (Jan.—Feb.) only *birsha* occurs, (2) at the beginning of the rains (Oct.—Nov.) and again at the end (Feb.—March) only *perspicua* occurs, (3) from March—July *teratia* is the predominant form, and (4) during July, August and Sept., the hottest and driest months, only *simonsi* occurs. There is very little overlapping in the series in the British Museum. These facts and the impossibility of fixing on any character—other than obvious seasonal characteristics—by means of which to separate these so-called species, point fairly conclusively to their being all forms of one and the same species, of which the oldest name is *perspicua* Trimen.

NYMPHALIDAE.

NYMPHALINAE.

7. *Charaxes etheocles* Cram.

P. etheocles Cram., Pap. Exot. ii, p. 34, pl. 119, figs. D.E., 1777.

(Plate VI, figs. 1–3.)

With regard to this and the next species I think it best to quote the whole of Dollman's very interesting MS. notes. The series of the two species were exhibited at the Entomological Society of London on 4th December, 1918, and a short account of them occurs in the Proceedings of the
TRANS. ENT. SOC. LOND. 1921.—PARTS I, II. (OCT.) R

Society, p. clxxvi, 1918. They are again referred to in the same publication, p. lxxv, 1919.

In Dollman's MS. notes there occurs the following with regard to *etheocles*. "This is a common and widely distributed species in N.W. Rhodesia. The males were taken at Mwendwa (rare); Mumbwa; Kashitu (abundant) and throughout the Solwezi sub-district. The first female was taken at damp mud by the Lukanga R., Kashitu—a typical specimen of the f. *manica* Trimen. Several females caught at Solwezi, mostly at bad bananas, a few drinking (rather unusual in females of Rhopalocera) and some at sap. The males seen in numbers at decomposing animal matter—one of the most readily attracted of all *Charaxes* by this lure.

"Larvae found in January–July and in October, mostly on *musasi*, a kind of acacia, but one on *musubo* and one on *kafundula*, the latter both Leguminous trees. Not found in such numbers as the next species, though by far the commoner in the perfect state, probably on account of the profusion of the *musasi* trees, which are tall and slender and mostly very inaccessible. One larva which pupated 3 vii. 1917, emerged 31 vii. 1917—28 days."

The series contains 20 ♂♂, all of the ♂-form *cytila* Rothschild, 19 ♀♀ of the ♀-form *manica* Trimen, 1 ♀ of ♀-form *phaeus* Hew., and the dates of capture or emergence cover the months Feb.–April, July, August and December, but Dollman speaks of having "both bred and caught specimens taken throughout the year," and states that they show "little seasonal variation." Those of the wet season, however, are more heavily and richly marked on the under-side than are the dry-season specimens.

8. *Charaxes fulgurata* Aurivillius.

Ch. fulgurata Auriv., Rhop. Aethiopia, p. 236, 1898.

(Plate VI, figs. 4 and 5.)

"A much more restricted species than the preceding; only found at Solwezi, about 100 miles from the Katanga boundary. Very few imagines caught—mostly at fruit, both sexes. It would seem to be very little attracted by animal matter, differing markedly in this from *C. etheocles*.

"The larva was *always* found on *kabulwebulwe*, a species of acacia, usually several on a shrub. Although when fully grown this makes a magnificent and beautiful tree, it is

rarely met with except as a small and easily searched shrub. Many hundreds of larvae were obtained in this way—such of the larger trees as were searched gave no results whatever.”

In the larval state the two species may be readily differentiated by their heads. In *fulgurata* the cephalic horns are long, rather pointed and broadly red-brown at apex; in *etheocles* they are “short and blunt”; and further, in *etheocles* “all the larvae had the median pair of small points [between the larger cephalic horns] light yellow,” whilst in *fulgurata* they “are always black or very dark.”

“The larvae were found during every month of the year except August, during which month the *kabulwebulwe* is leafless. The eggs are laid on the upper surface of the leaves. The pupal stage lasts from three weeks to a month.”

This species has hitherto usually been considered a form of *etheocles*. But the two species occur together, and are readily separable without fear of confusion. The chief points in which the male of *fulgurata* differs from that of *etheocles* are: the rather lighter, bluer shade of the blue-green ground-colour, the size of the two subapical spots—much larger and more crescentic in *fulgurata* than in any race of *etheocles*—the fusion of the submarginal dark green spots with the marginal strip of the same colour, and the length and conspicuousness of the internervular marginal pale lines. Dewitz gives an excellent figure of the male in Nov. Act. Ac. N. Cur., Vol. 50, t. 17, f. 10 (1887), under the name of *C. ephyra* var. The size and shape of the two subapical spots and the submarginal and marginal markings of the female correspond very closely to those of the male and serve to distinguish it readily from females of *C. etheocles*. All the females obtained by Dollman correspond to the *phaeus* form of *C. etheocles*, and may be known as ♀ f. *mima*, form nov. (B.M. Type No. Rh. 060 ♀). I see no reason to suppose that the female figured by Dewitz (l.c.), and having a white band to the fore-wing, is not also a female of this species. The marginal markings are identical with those of ♀ f. *mima*, and by no means those of *C. etheocles*, ♀ f. *manica* Trim. This form has been named f. *lunigera* Roths., Nov. Zool. vii, p. 488, 1900.

Further evidence of the distinctness of *C. etheocles* and *C. fulgurata* lies in the particulars as to differences in the larvae, food-plants and imaginal habits given by Dollman. And, in addition, a series of preparations of the genitalia

shows a constant difference in the form of the penis. In *C. fulgurata* the large toothed ridge just distal from the bend is replaced by a slight toothed swelling. This difference was at first thought to be individual, but it is actually constant in all the specimens examined.

16 ♂♂, 15 ♀♀, ii. iv-viii. x. Solwezi.

9. *Precis actia* Dist., forms, *actia* Dist., and *furcata*, R. and J., and

10. *Precis pelarga* Fab. f. *leodice* Cram.

It is interesting to note that Dollman was convinced of the specific distinction of these two species, which had always been considered one until separated by Rothschild and Jordan (Nov. Zool. x, p. 516, 1903). He regarded the commoner species however (*P. actia* Dist.) to be *P. pelarga* and thought this latter a new species. His females of *P. pelarga* f. *leodice* are of the more unusual form which resembles the male in coloration and is quite devoid of any trace of bluish or white suffusion of the yellow band on both wings. A character which may be of some use to help to separate these two species is the shape of the outer edge of the basal black area of the fore-wing. In *P. actia* it is, as a rule, much more crenulate, especially posteriorly, than in *P. pelarga*; it nearly always runs in an even curve in areas 2 and 3 in *P. pelarga*, but is interrupted on vein 3 in *P. actia*. The only certain guide, however, is the shape of the clasper in the male, as indicated by Rothschild and Jordan (l.c.).

ACRAEINAE.

11. *Acraea welwitschi* Rogenh.

Acraea welwitschi Rogenh., Verh. z.-b. Ges. Wien. 42, p. 573.

(a) *A. welwitschi lutea*, subsp. nov.

(Plate V, fig. 7.)

A series of 11 ♂♂ from Mutema's in the Lukanga Valley, Kashitu, taken during August 1917, exhibits little variation. They are nearest to the subsp. *lobemba* Eltr., but differ constantly in having the fore-wing apical and hind marginal black restricted to about half the width, in having a generally paler ground-colour, with distinct ochreous tinge in the fore-wing discal area, and very slightly more pronounced white in discal area of hind-wing.

B.M. Type No. Rh. 063, ♂, Mutema, Lukanga Valley, Kashitu, N.W. Rhodesia, 10 viii. 1918 (*H. C. Dollman*).

Length of fore-wing 3.1 cm.—some specimens a good deal smaller.

(b) *A. welwitschi nivea*, subsp. nov.

(Plate V, fig. 8.)

1 ♂ (B.M. Type No. Rh. 064) from Solwezi, August 1917 *H. C. Dollman*, differs considerably from the preceding. The black basal area of fore-wing does not nearly reach vein 2; the spot on discocellulars is minute; the black costal mark beyond is narrow, and only reaches vein 5, being followed by a small separate spot in area 4; ground-colour and margins as in *A. w. lutea*. The hind marginal border of hind-wing is very broad, reaching nearly to edge of cell in areas 3 and 4 particularly, where it gives place to white, which extends in an almost rectangular patch from inner margin to vein 6, and in the cell nearly reaches the base of vein 7; basal black of hind-wing of normal extent; remainder of areas 5, 6, 7 and 8 of normal salmon-pink coloration.

I should have hesitated to add another name to the burden of this species on an examination of a single specimen, were it not that Dollman says that "it is common in woodland parts of the Solwezi District and that all the specimens were similar to the one (the type) in his collection; of those caught there was little, if any, variation."

12. *Acræa guillemei* Oberth.

A. guillemei Oberth., Études d'Ent. xvii, p. 19, 1893.

A. diogenes Suffert, D. E. Z. Iris, xvii, p. 114, 1904, ♀.

A. acutipennis Lathy, Trans. Ent. Soc., p. 3, 1906, ♂.

A. lactea Neave, P. Z. S., p. 20, 1910, ♀.

"2 ♂♂ taken 30 xiii. 1917 at Solwezi, one actually *in copula* with a ♀ *diogenes*, Suff., and the other in close attendance on the pair, seem to furnish conclusive evidence as to the specific identity of these two named forms. The analysis of the spots, particularly of the hind-wings, confirms this. In addition 3 ♀♀, xii. 1917, and 1 ♀, i. 1918, also at Solwezi. Probably a woodland species and not met with elsewhere."

LYCAENIDAE.

THECLINAE.

13. * *Hypolycaena japhusa*, sp. nov.

(Plate VII, figs. 9 and 10.)

♀. *Upperside, fore-wing*: Ground colour pale grey, apical third beyond a line from origin of vein 7 to anal angle considerably darker grey; a broad crescent-shaped white band from apex of cell to inner margin, broadest at vein 2 and including distal part of cell, the edges shading gradually into ground colour, about 4 mm. broad at inner margin; the discocellars grey. *Hind-wing*: the bases of areas 1a, 1b, 1c, 2 and 4 and the whole of areas 5, 6, 7 and 8 of same grey as ground colour of fore-wings, remainder white, the markings of underside repeated faintly, except the black marginal spot in area 2, which is heavier above than below.

Underside, both wings: pure white. *Fore-wing*: discocellars very faintly marked with grey, discal band dull brown, rather interrupted, submarginal and marginal bands very fine and faint. *Hind-wing*: discal yellow band very narrow and considerably broken, finely black-edged interiorly, sharply angled in 1c thence to inner margin at extremity of vein 1a; submarginal band very faint and cloudy, the marginal line very fine and well defined; anal black spot small, surmounted by yellowish scales inwardly, metallic blue outwardly; marginal black spot in area 2 surrounded on the inner side by pale ochreous; no spot in area 7.

Length of fore-wing, 15.5 mm.

B.M. Type No. Rh. 065, ♀, 27 viii. 1915, Yiafusa R. (a tributary of the Lukanga River), near Kashitu, N.W. Rhodesia (*H. C. Dollman*).

This may prove to be a form of *H. hatita* Hew., with which it agrees completely as to the arrangement of its underside

* Since writing the above Mr. Talbot has found what we consider to be the male of this species in the Witley Museum, and has kindly furnished me with the following short description:—

♂ *Upperside* resembling *hatita* Hew., and *ugandae* Sharpe. *Hindwing* with white submarginal spot in 3 strongly developed, the two in 4 and 5 indistinct. *Underside* as in Uganda form, with thinner and straighter post-discal lines.

Length of fore-wing, 15 mm.

Hab.—Kikura River, Lufira Valley, S.E. Congo, 14 v. 1919, 1 ♂ allotype. In addition 1 ♀, 5 iv. 1919, same locality; and 1 ♀ from Buluo River, Lufira Valley, May 1919; all collected by T. A. Barns.

markings, though differing in the *size* of them. This, and the large white central area of fore-wing and the white posterior half of hind-wing readily separate it from normal *H. hatita*, specimens of which are in the B.M. from Kambove, Katanga, in the Belgian Congo, just north of N.W. Rhodesia. A very similar form occurs in Uganda (*H. ugandae* E. M. Sharpe, Entom. 1904, p. 203).

14. * *Spindasis cynica*, sp. nov.

(Plate VII, figs. 11 and 12.)

♀. *Upperside, fore-wing*: the disc of wing ochreous, costa and hind margin very broadly black, the ochreous colour extending partly into distal half of cell and filling approximately the upper half of area 2. Four heavy black marks are conspicuous in the discal ochreous area, viz. across cell end, in area 5 midway between cell end and hind margin, in area 4 distally, and across proximal part of area 3 and central part of area 2, this last spot produced in fact towards anal angle, where it joins the marginal border and forms a large dark area. A light blue suffusion covers most of the proximal half of the wing, but does not extend much into cell anteriorly. Fringes white, spotted with black at the ends of the veins. *Hind-wing*: dark grey-brown, costal area and an oblong spot extending from vein 3 to vein 5, rather nearer margin than cell, and a broad ill-defined sub-marginal band, all darker. Marginal border narrow and black. Abdominal area light grey. A light blue suffusion as in fore-wing extends from base to tornus, but does not extend to costal,

* As in the case of the preceding species, I am here again indebted to Mr. Talbot for a description of the male of this species, which we have both examined.

♂. *Upperside* blackish-brown. *Fore-wing* with a pale ochreous patch outside the cell in cellules 4 and 5, an indistinct spot of similar colour in the cell, a small spot at base of 3, and a larger one below it in 2; proximal three-fourths of cellule 1b pale blue, extending into the base of 2 and lower basal part of cell, also slight blue scaling below the submedian. *Hind-wing* with slightly paler areas indicating obscure dark marginal band and a post-discal spot. Inner margin grey.

Underside markings as in the female.

Length of fore-wing, 15 mm.

Expanse, 32 mm.

Hab. Kikura River, Lufira Valley, S.E. Congo, 5 v. 1919 (*T. A. Barns*), 1 ♂, allotype, in Coll. Joicey.

terminal or abdominal areas, and is partly obscured by a profusion of long pale grey hair-scales. Tails black, their extremities white, each with a small ochreous spot at origin. Fringes as in fore-wing.

Underside, both wings: creamy white with numerous black-edged silvery markings; fringes as above. *Fore-wing*: a small basal spot black, and a black sub-basal spot anteriorly filled with silver, within cell, both irregular in outline. A black costal streak runs from base and ends abruptly, level with the sub-basal cell-spot. An anteriorly broader black-edged irregular silvery bar across centre of cell from costa to vein 2. The base of wing below the cell and as far as this bar black. Beyond cell are three costal spots, also silvery, the first joined to the similar bar across cell end, the second free, and the third inwardly and posteriorly joined to a similar spot most of which lies in area 5. There is a similar somewhat crescentic apical spot, and another dumb-bell-shaped one mostly in area 4 below, external to and touching that mentioned as being mostly in area 5. Marginally in area 4 is a large subquadrate black spot barely touched with silver. A broad black band, only silvery anteriorly, runs from just above vein 4 to tornus and is twice angled in its course. The narrow black marginal line is preceded by a double row of fine wide V-shaped black marks. *Hind-wing*: similar, heavy, silvery, black-edged spots to those of fore-wing are present basally and costally, namely, a large circular one in area 7, touching the dark basal mark, and two distally, oblong, also in area 7, partly joined together and joining a similar one between them in area 6. The cell contains a round black basal spot and an irregular silvery central one, and has a silver bar across discoecellulars edged with brown, not black. The bases of areas 1*a*, *b* and *c* are occupied by mottled brown and black with some silver distally. Between these and the marginal markings, which latter are as in fore-wing, the bulk of the surface is occupied by irregular silver bands and spots which are narrowly edged with black or brown, and are apparently produced by the coalescence of discal and subdiscal bands. The anal angle bears a clear black spot, and the tails are as above.

Antennae black, proximally ringed with white. Head above grey, below creamy yellow; palpi above black, below creamy yellow. Thorax and body above dark grey with bluish tinge, below pale grey, the latter striped laterally with white at each segment.

Length of fore-wing, 18.5 mm.

B.M. Type No. Rh. 142, ♀, Solwezi, v. 1917.

This distinct species, of which unfortunately only the one specimen was obtained, is nearest to *Spindasis iza* Hew., *S. menelas* H. H. Druce, and *S. crustaria* Holl., but is readily separable from all of them.

15. *Aphnaeus affinis*, sp. nov.

(Plate VII, figs. 7 and 8.)

♂. *Upperside, both wings*: rich reddish-brown with faint coppery reflections, the veins, especially towards costa, black: hind margins with a fairly even very dark brown band, about 1 mm. wide. *Fore-wing*: areas 8, 9 and 10 entirely black, a small dark grey area at base of area 1a: an oval central spot in cell, a larger irregular one at cell end, a smaller rather indistinct one in area 1b below origin of vein 2, and a discal row of five smaller ones, the upper two at least black-edged, in areas 3-7, the lower ones very indistinct, the central one of the series only slightly displaced outwardly, all brownish-yellow: fringes brown. *Hind-wing*: no other markings, anal lobe purplish-brown, tail brown, fringes slightly whitish posteriorly.

Underside, both wings: ground-colour purplish grey-brown with numerous large yellow spots. *Fore-wing*: area 12 almost entirely ochre-yellow, a subquadrate basal cell spot, a large oblong spot across the centre and large irregular spot across end of cell from just beneath costa and extending into area 3, the last two joined or almost joined by a small triangular spot in base of area 2, all of same colour; a discal band of yellow spots as above, but larger and with all spots well defined and, like those already mentioned, outlined with ferruginous brown; area 1b contains a small basal spot and two very large irregular spots beyond, paler posteriorly, all three more or less confluent and partly outlined with blackish; a subterminal row of darker reddish-brown subtriangular spots; inner margin pale yellowish. *Hind-wing*: basal spots in areas 1a and 8, followed by a series of four large oval spots in 1a, 1c, the cell and 7, that in 1c much displaced outwardly; a large irregular spot at cell end; a discal series of nine spots in a semicircle from area 8 to 1b, the spot in 1c being split to form 2; of the series counting from costa, the 2nd (the largest) and the 4th and 5th (the smallest, except the 6th) are beyond and the 8th slightly before the others, the 2nd and 3rd more or less confluent, and also the 6th to 9th; this series is followed by a subterminal series of basally contiguous subtriangular rather darker yellow spots; a small crimson spot and some bluish scaling at anal lobe.

Antennae purplish, yellow-tipped; head and collar purplish to bronze—no yellow or grey; eyes, except above, broadly encircled with white; palpi below white, distally brown, the terminal joint purple; from above purple, the terminal joint black. Thorax and abdomen above covered with long fine bronze-green hairs; below, white. Legs, 1st pair interiorly purple, outwardly white, others the reverse, with less white.

Length of fore-wing, 17 mm.

B.M. Type No. Rh. 066, ♂, Chanteli R., Solwezi, viii. 1917 (*H. C. Dollman*).

Three further ♂♂ from same locality, 1 ♂ Chipupushi R., Solwezi, 22 viii. 1917. They show considerable variation in the amount of confluence of the underside yellow ochre markings. They are, however, constantly separable from *A. erikssoni* by many small details such as the absence of spots in hind-wing above, the position of central spot of discal band of fore-wing below and of the 2nd spot in the discal series of hind-wing below. The collar, too, between head and thorax in *A. erikssoni* is dark grey or black, the head yellowish and underside of thorax and body yellowish—all different from *A. affinis*.

1 ♂ from Lukanga R., 7 ix. 1915, which undoubtedly belongs to this species, is rather paler above and, below, has all the yellow markings much reduced, the smaller spots being entirely absent, and the others only half the normal size on the average, giving the insect a very different general appearance.

16. *Aloeides molomo mumbuensis*, subsp. nov.

(Plate VII, figs. 3-6.)

♂. *Upperside, both wings*: orange-yellow with large dark grey-brown areas. *Fore-wing*: hind margin broadly black from costa to inner margin, 3 mm. broad anteriorly, 4 mm. broad on inner margin, a large subquadrate darker area at cell end from costa almost to vein 4, joining the hind marginal band on costa and divided from it along remainder of its outer edge by a strip about 1 mm. wide of the orange ground-colour. *Hind-wing*: a similar spot in the same position, but reaching hind margin throughout, not extending beyond vein 4, a certain amount of black sealing between it and base of wing, and also in areas 1a and 1b, principally distally; margin narrowly black, having a crenate appearance. Fringes of both wings dark grey chequered with lighter.

Underside, fore-wing: pale greyish ochreous, a narrow orange stripe in cell and broader ones in areas 1b, 2 and 3; two black, silver-centred spots in cell, and double one on discocellulars, a discal row of six black spots inwardly silver edged, commencing with 2 in area 1b, the fifth very much beyond the series; a seventh obsolete spot above the series and 2 in 1b on inner side of those in series; a similar regular series of subterminal spots all but the lower three obsolete; a marginal series of minute dark points; fringes as above. *Hind-wing*: ground-colour the same; basal area cloudily purplish-brown

followed by paler area; discal area similar, marginal area much paler; numerous rather brassy metallic spots, namely one basal one in cell, a sub-basal series of 4, a series consisting of a large spot on discocellulars and one each in 1b and 1c, and two discal series, each of eight sometimes almost obsolete spots, the outer series regular, the inner series with the 2nd, 4th and 6th spots (counting from costa) well beyond the others; a marginal series of grey spots.

♀. The same but with ground-colour slightly paler.

Length of fore-wing, ♂ 14 mm., ♀ 15 mm.

B.M. Type No. Rh. 067, ♂, 068, ♀. Both from Mumbwa, I ix. 1913 (*H. C. Dollman*).

Readily separable from typical *A. molomo* by the division of the black costal area from the reduced hind marginal border by the ground-colour in fore-wing and by the restriction of black markings of hind-wing to the area above vein 4. Below, the hind-wing is more evenly mottled in appearance. The narrow black border to the hind-wing above is very much as in *A. damarensis*, which is probably a local race of the same species.

In addition 4 ♂♂, 3 ♀♀ same date and locality. "Very local, being only found on one part of the plains in front of the Boma; often settling on the red-brown soil, sometimes on flowers."

17. *Aloeides griseus*, sp. nov.

(Plate VII, figs. 1 and 2.)

♂. *Upperside, both wings*: darkish grey-brown, with faint brassy reflections, fringes obscurely chequered with slightly paler greyish. *Fore-wing*: a very faint lighter mark on the discocellulars and indications of a submarginal series of oblong paler markings. *Hind-wing*: indications of a similar but even fainter series of submarginal spots, particularly posteriorly; margin rather dentate.

Underside, both wings: same colour as above, densely sprinkled with lighter, yellowish scales; the arrangement of spots the same as in preceding species. *Fore-wing*: the white, hardly metallic parts of spots very conspicuous, the submarginal series more even, marginal series barely traceable. *Hind-wing*: many of the spots hardly traceable, remainder brassy-yellow and very indistinct, not metallic.

♀. Similar in all respects, but the markings heavier. *Upperside, fore-wing*: the marginal series represented by a diffuse paler band. *Hind-wing*: the same represented by a wavy ill-defined band. The fringes more distinctly chequered.

Underside, both wings: the ground-colour clearer, yellow, not having such a grey appearance. *Fore-wing*: all spots heavier, larger and brighter. *Hind-wing*: the spots all better defined, by means of their darker edges, larger, but not brighter.

Length of fore-wing, ♂ 18 mm., ♀ 19 mm.

B.M. Type No. Rh. 069, ♂, 070, ♀, 22 viii. 1917. Solwezi, N.W. Rhodesia (*H. C. Dollman*).

"This species would seem to be on the wing only after the veldt fires; then, owing to its obscure smoky colour, and constant habit of settling on the bare soil or burned grass roots, it is very inconspicuous."

Some specimens show a very slight yet distinct reddish-brown tinge in the hind-wings below. The species is nearest to *A. orthrus* Trim., but readily separable from that by its larger size and the grey, not orange, colour of the underside of the fore-wings; the females, too, are devoid of orange markings on the upperside.

1 ♂, 3 ix. 1913, 1 ♀, 13 ix. 1913, Mumbwa; 2 ♂♂, 3 ♀♀, 22 viii. 1917, Solwezi (including type ♂♀).

HESPERIDÆ.

18. *Sarangesa neavei*, sp. nov.

(Plate VII, fig. 13.)

♂. *Upperside, both wings*: dark blackish-grey, finely irrorated with greyish; numerous minute pale brownish-grey spots; fringes uniformly grey, the distal half rather lighter, not chequered. *Fore-wing*: the arrangement of spots the same as in *Sarangesa astrigera* Butler, one distally in cell, one in area 11 above it, two each in areas 6, 7 and 8 all close together, one each in 4 and 5 beyond the others, one each in 2 and 3 very minute and towards the bases of the areas, in 1b two below these two and a further pair towards base; a marginal series of eight pale points. *Hind-wing*: an indistinct pair of spots at cell end and a series of five more distinct spots in a semi-circle around them between them and costa, the series continued very indefinitely towards the inner margin on disc of wing; a series of marginal dots as in fore-wing, but incomplete.

Underside, both wings: uniformly smooth dark greyish-brown; the spots as above but much more distinct and whiter. *Fore-wing*: spots in area 7 absent; marginal dots confined to area 1b, the basal spots in this area much larger than above. *Hind-wing*: the spots resolve themselves into one in cell anteriorly just before origin of

vein 7, one basally in 1c below origin of vein 2, two discal and one marginal series; the inner discal series of six spots, a largish one in 7 above origin of vein 7, one each in 5, 4 and 3 very close to cell, a pair in 1c; the outer series of eight, one each in 7-2 and a pair in 1c, parallel to margins; marginal series of six in areas 1b, 1c (two) to 4; the base of wing and areas 1a and 1b with slight greyish scaling.

Palpi, head and thorax above, and body above and below of same colour as wings; palpi below yellowish-white, thorax the same, greyer posteriorly; 1st and 2nd pairs of legs inwardly paler, the extremities of all tarsal joints of paler or white. Antennae black, white ringed, the club broader, white-banded just beyond commencement.

Length of fore-wing, 11.5 mm.

B.M. Type No. Rh. 071, ♂, Yiafusa R., Lukanga Valley, N.W. Rhodesia, viii. 1915 (*H. C. Dollman*).

There is only this single specimen in the Dollman Coll., there are, however, four other male specimens in the B.M. from N.E. Rhodesia, collected by S. A. Neave. The species is of variable size, some being as large as *S. astrigera* Butler, to which it is closely related. It resembles the Indian species, *S. sati* de Nicé., very much in appearance.

19. *S. laelioides*, sp. nov.

(Plate VII, fig. 14.)

♂. *Upperside, both wings*: dark roughish grey-brown with darker shadowy markings. *Fore-wing*: the whole surface, but more particularly the base and hind margin, with faint brassy reflections, a minute white spot in anterior part of cell just below origin of vein 11, a similar spot towards base of area 3 and an oblique one below it in area 2, three small subapical spots, subquadrate, the lower one very slightly beyond the others, all hyaline; a darker transverse band, whose inner edge shades into the ground-colour, from costa to inner margin, and whose outer edge runs from costa just before end of vein 12, just within hyaline cell spot to posterior edge of cell, where it is sharply angled, thence to the hyaline spot in area 2, and thence to inner margin, but fading away on vein 1, outwardly bordered by a narrow parallel area sprinkled with grey scales; beyond this a large squarish darker costal area, reaching to subapical spots and posteriorly but indefinitely extending into cell so as to appear to fuse with the transverse band towards base of vein 3, but not actually doing so, and also fusing in the other direction with the cloudy submarginal band, about areas 3 and 4; beyond subapical spots, and touching them, a small triangular greyish patch; margin greyish with a fine dark grey line before fringes, which are white

at the apex, brown elsewhere. *Hind-wing*: without any metallic reflections; a sub-basal and two discal series of very indefinite shadowy darker spots, a marginal dark line, fringes dark brown.

Underside, fore-wing: as above, but of a smoother browner appearance, the markings, except hyaline spots, barely indicated, marginal area rather heavily sprinkled with long narrow grey and yellow scales. *Hind-wing*: as above, the markings even less clearly indicated, the whole surface, but especially the hind margin and inner margin, sprinkled with scales like the fore-wing.

Head, thorax, body, legs and palpi above matching the wings in colour; palpi below lighter. Antennae black, rather broadly white ringed, the club black, proximally whitish, the tip grey.

♀. Like the ♂, but with ground-colour slightly paler, so that the markings show up better; below the same as the ♂.

Length of fore-wing, ♂ 18 mm., ♀ 19 mm.

B.M. Type No. Rh. 072, ♂, Jan., and 073, ♀, Feb., 1917, Solwezi.

Also 5 ♂♂, 1 ♀, Solwezi, i.-iii. & ix. 1917. The species shows considerable variation in the number of the hyaline spots. All have the three subapical spots, but of the others any or all may be absent; no two specimens in the series are alike in this respect. The one dry-season specimen—a male taken in September—only differs from the others in being of a rather lighter shade of grey, so that the markings are rather more distinct, though still very obscure. It was thought at first that this might only be the wet-season form of *S. laelius* Mab., but preparations of the genitalia show it to be absolutely distinct. Although the arrangement of the markings is very similar to that species, the shape of the outer edge of the transverse band—when it is possible clearly to see this—readily separates this species from *S. laelius*.

20. *Sarangesa maxima* Neave.

Sarangesa maxima Neave, Proc. Zool. Soc. Lond., p. 70, 1910.

1 ♂, 2 vi. 1917, 1 ♂, 5 x. 1917, on the open plain by the Chifubwa River, Solwezi, Boma. Dry-season form.

“In life the orange underside is very striking.” Neave records this as a forest insect.

The wet-season form of this species, of which there are two ♂♂ (Jan. 1917 and 27 x. 1917, Solwezi) in Dollman's collection, are so very different in appearance as to need a separate description.

(a) *S. maxima* f. *flava*, f. nov.

(Plate VI, fig. 6.)

♂. *Upperside, both wings* : dark brownish-black, chequered with large orange subquadrate spots; fringes blackish, chequered with pale yellowish. *Fore-wing* : basal third and area 1a lighter, greenish-brown; hyaline spots as in dry form, viz. : one in cell, a small one in area 3, and a larger below in 2, circular, and three subapical spots, the lower triangular, the middle one the smallest; a spot in cell before and below the hyaline cell spot, a similar one above this spot, on costa, one below in 1b, large, a large oblong spot at cell end halved by the black discocellulars into two almost square spots, all orange; beyond these, two series of similar orange spots, the inner of 8, the outer of 7 spots from costa to inner margin, the series converging in areas 4 and 5, so that the spots of the two series are almost fused in those areas. *Hind-wing* : a small spot in cell before origin of vein 7 and a large one at cell end; indications of similar but small spots in area 7 above origin of vein 7, in areas 2 and 3 right at their bases, and a larger, distinct one in 1c centrally; a discal and a marginal series of six and five spots respectively, the spots in area 4 touching, all squarish and orange.

Underside, fore-wing : completely orange yellow except for areas 1a, basal halves of 1b, 4 and 5, the areas immediately surrounding the hyaline spots, the veins, some costal shading chiefly before the subapical spots, and a submarginal obscure band of shading, all of which are black. *Hind-wing* : the same, with variously shaped, mostly squarish black spots arranged : two in cell, the distal one the larger and orange-centred; three in 1c, evenly spaced, the basal one very diffuse; a series of seven commencing with two in area 7 and extending in a semicircle to the distal spot in 1c (exclusive), the distal one in 7 the largest, the one in 3 minute; a cloudy marginal spot in 7.

Length of fore-wing, 16 mm.

B.M. type No. Rh. 189, ♂, 27 xi. 1917, Solwezi.

That this insect is the wet-season form of *S. maxima*—as suggested by Dollman—there seems no reason to doubt. The undersides are very similar and the arrangement of the markings coincides throughout. There is no difference visible in the genitalia.

21. *Eretis herewardi*, sp. nov.

(Plate VI, fig. 7.)

♂. *Upperside, both wings* : shiny dark grey-brown with obscure darker markings; fringes chequered with lighter grey rather diffusely. *Fore-wing* : seven hyaline spots, viz. : two in cell, one above the other, between origins of veins 3 and 11, very small, a very small one

at base of area 3 and a large oval one below it in area 2, three sub-apical spots in usual position, the lowest beyond the others; two round dots in *1b* basally, a broad transverse band, broken up on costa, darkest against the hyaline spots in cell, broader but lighter thence to inner margin, a large squarish patch not reaching costa, bounded by the three subapical hyaline spots and reaching similar spot in area 3, two rather indefinite spots below hyaline spot in area 2, a straight cloudy band from apex to inner margin near outer angle, broadest below vein 4, and the whole of areas *1a* and *12* all darker than the ground-colour; the marginal area lighter and shinier as to ground-colour. *Hind-wing*: some obscure darker markings basally hardly separated from a sub-basal transverse obscure band of darker spots; this latter followed by a similar broad discal band close to which, on its outer edge, there appears to run a series of black dots; a similar submarginal band of equal width except anteriorly, where it extends to the margin, equally ill-defined; marginal area rather lighter.

Underside, fore-wing: as above, but lighter; of the dark markings the most conspicuous are the distal pair of spots in *1b* and that part of the submarginal band which is represented in areas 4 and 5 by two triangular spots, the other dark markings very obscure; immediately beyond and touching the hyaline cell spots is a lighter area with a faint reddish tinge. *Hind-wing*: much lighter than above, especially posteriorly; darker markings are: three indistinct square spots in area 7, a transverse line near cell end, one at cell end and one centrally in area 6, from which a wavy interrupted dark line, broadest in 4 and 5, extends to vein *1b*; an oblong lighter, almost reddish patch from just within cell to the dark markings in area 4 and 5.

Palpi, head, thorax and abdomen above of same colour as wings. Palpi below grey, thorax, body and 2nd and 3rd pairs of legs matching the wing coloration; first pair of legs externally white. Antennae grey, white ringed, the club above black, below grey centrally, otherwise white.

♀. Exactly like the male.

Length of fore-wing, ♂ and ♀ 15.5 mm.

B.M. Types No. Rh. 074, ♂, and 075, ♀, Solwezi, bred 30 xii. 1917 and 11 i. 1918 respectively. In addition 10 ♂♂, 7 ♀♀ Dec.-Jan., Solwezi, all bred.

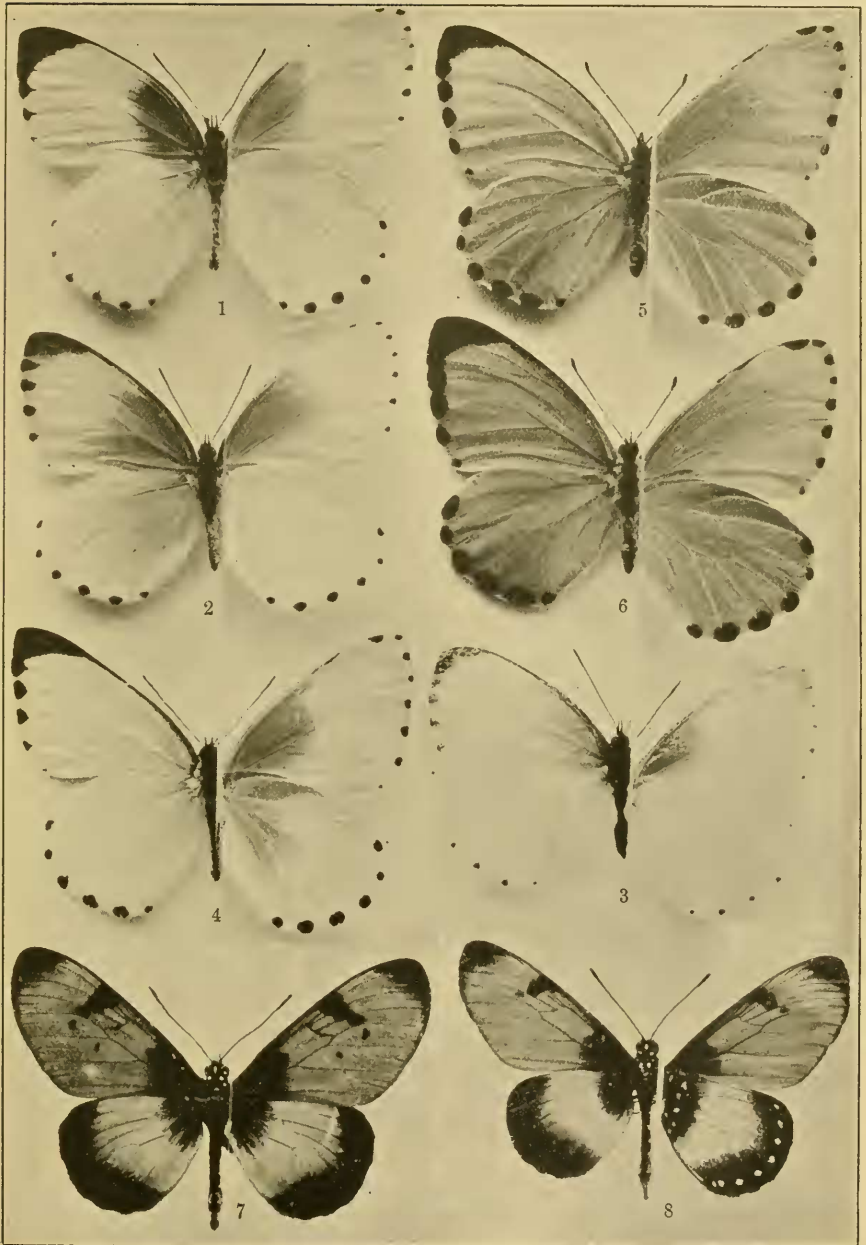
Of this species Dollman says: "Never caught on the wing. The larvae, which were found in numbers on a small herbaceous plant near the Solwezi River, are brown, with the head nearly black. They live in the usual Hesperid fashion in a spun-up leaf or leaves."

The species was also obtained on the Lualaba River and



BUTTERFLIES FROM NORTHERN RHODESIA.





BUTTERFLIES FROM NORTHERN RHODESIA.